

# lightsources.org

## Presentation to National User Facility Administrators

March 8, 2005

# The current problem with light sources

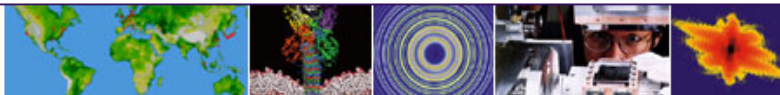
Many light sources worldwide

Users from thousands of institutions  
(> 3,500 institutions at last count)

User institutions are often the  
source of news

Diverse science not unique to light  
sources

Light source  
connection  
to news is  
often diluted  
or lost



# Our Solution: Worldwide Collaboration

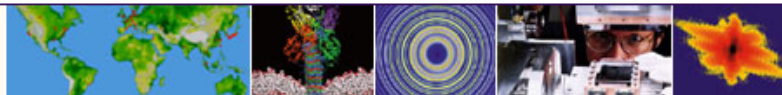
A few years, a group of light source communicators began to discuss how to promote greater public understanding of the role of light sources (synchrotrons and free electron lasers) in broad fields including science, technology, and medicine.

This resulted in:

- ☀ Formation of an international consortium of light source communicators.
- ☀ Establishment of a light-sources information web site, [lightsources.org](http://lightsources.org).

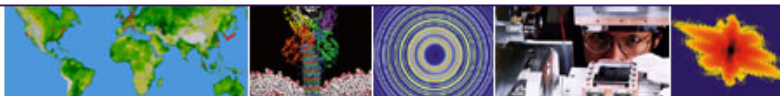
# Motivation for Collaboration

- ☀ Synchrotron light sources today constitute a multibillion dollar enterprise worldwide with about 50 operating facilities in more than 20 countries.
- ☀ These facilities require substantial financial support to keep operating (in the order of 10 % of initial investment per facility per year).
- ☀ It is important that these facilities are supported by funding agencies, the scientific community, and the general public.
- ☀ Increasing the visibility of the facilities and raising public awareness of the benefits that derive from the basic science and research conducted at the light sources is important.



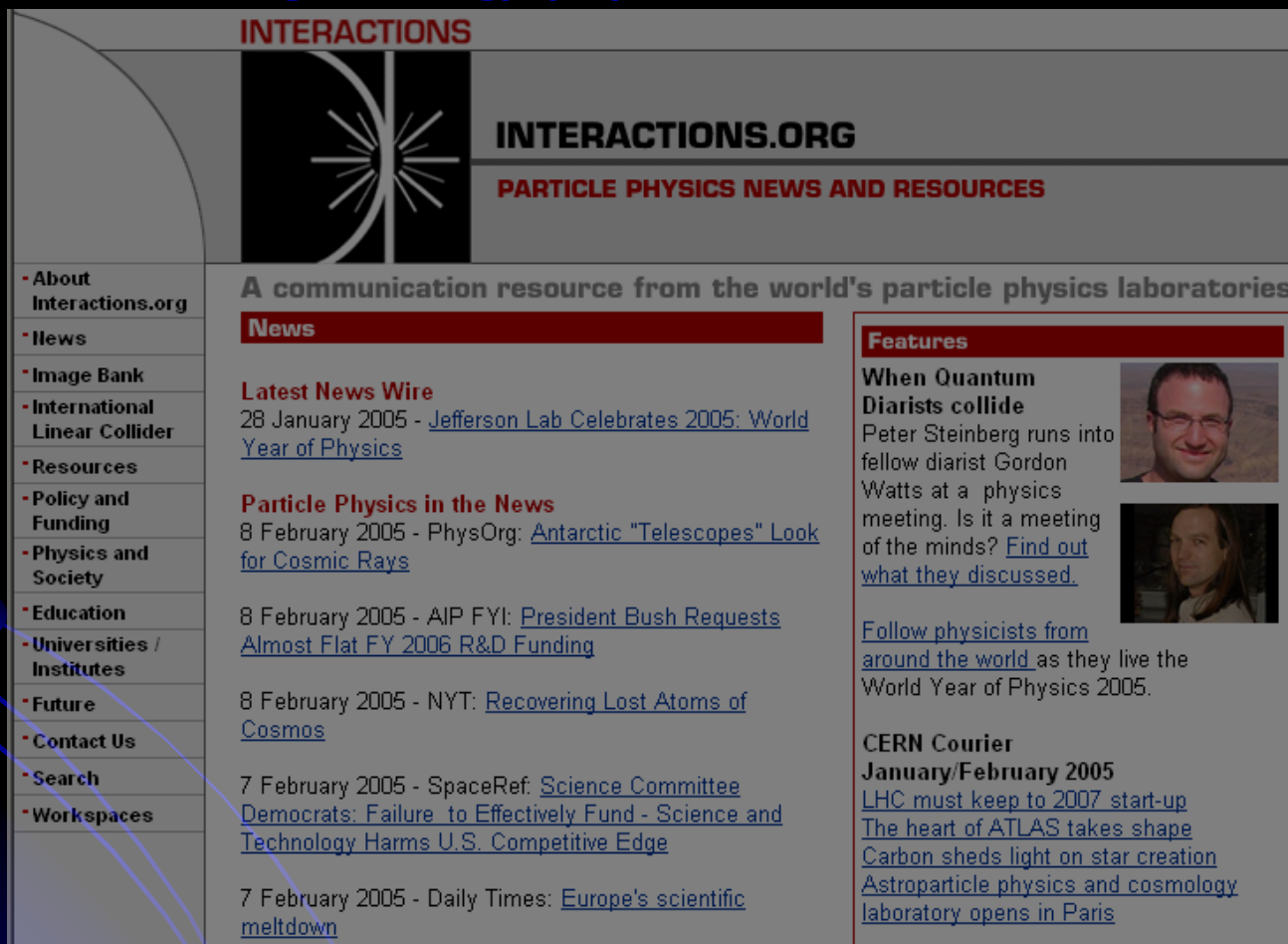
# History of lightsources.org

- ☀ Fall 2001: First conference call: CLS, SRS, AUS, ESRF, ALS
- ☀ April 2003: DOE Communicators meeting at APS
- ☀ August 2003: International Communicators meeting during SRI2003
- ☀ August 26, 2003: Neil Calder presents first proposal for collaborative web-site to SRI International Advisory Committee (Facility Directors). A detailed proposal is requested.
- ☀ November 19-20, 2003: Meeting at the APS. "THE PLAN" is formulated, a name is picked: "lightsources.org".
- ☀ May 6, 2004: Light Source Communicators meeting at the APS to choose web-master. Also selection of a logo.
- ☀ Summer 2004: Financial contributions are solicited in an e-mail co-signed by J. Murray Gibson and William G. Stirling.
- ☀ Fall 2004: Design of web site, monthly conference calls.
- ☀ ***February 2005: lightsources.org goes live – press release and announcement at AAAS meeting!***



# Our inspiration: The elder sibling

Web site is the centerpiece of our communications strategy,  
based on high energy physics model, Interactions.org



**INTERACTIONS**

**INTERACTIONS.ORG**

**PARTICLE PHYSICS NEWS AND RESOURCES**

A communication resource from the world's particle physics laboratories

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- Resources
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**News**

**Latest News Wire**  
28 January 2005 - [Jefferson Lab Celebrates 2005: World Year of Physics](#)

**Particle Physics in the News**  
8 February 2005 - PhysOrg: [Antarctic "Telescopes" Look for Cosmic Rays](#)

8 February 2005 - AIP FYI: [President Bush Requests Almost Flat FY 2006 R&D Funding](#)

8 February 2005 - NYT: [Recovering Lost Atoms of Cosmos](#)

7 February 2005 - SpaceRef: [Science Committee Democrats: Failure to Effectively Fund - Science and Technology Harms U.S. Competitive Edge](#)

7 February 2005 - Daily Times: [Europe's scientific meltdown](#)

**Features**

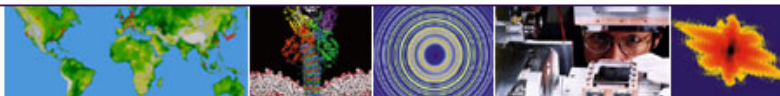
**When Quantum Diarists collide**  
Peter Steinberg runs into fellow diarist Gordon Watts at a physics meeting. Is it a meeting of the minds? [Find out what they discussed.](#)

[Follow physicists from around the world](#) as they live the World Year of Physics 2005.

**CERN Courier**  
**January/February 2005**  
[LHC must keep to 2007 start-up](#)  
[The heart of ATLAS takes shape](#)  
[Carbon sheds light on star creation](#)  
[Astroparticle physics and cosmology laboratory opens in Paris](#)

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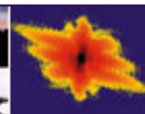
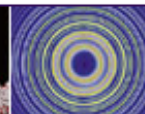
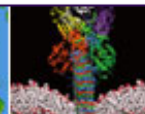
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about the world's light source facilities

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## News

### Latest Press Release

January 31, 2005

#### Spectroscopy for the Real World

New system used to analyze environmental, biological phenomena in their natural state

... A team of scientists used a first-of-its-kind spectroscopy system at the U.S. Department of Energy's Advanced Light Source (ALS) at Lawrence Berkeley National Laboratory to obtain the first direct observations of negatively charged ions accumulating on the surfaces of salt solutions. ...

## News

February 8, 2005 - News Medical

#### Project ma

A project to working in the grant of 10 m

February 4, 2005

#### Biochemist

...The Synchrotron radiation source at the 368-meter-long second as the approximate

February 4, 2005

#### Polish rese nanotechno

...The initial high vacuum in Grenoble,

## Science Highlights

Spring-8: ... Is a room-temperature superconductor possible?

## ELETTRA, I3 Managing Facility

Coordinating Synchrotron and FEL Science

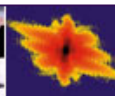
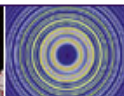
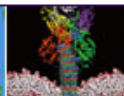
## "Field of Beams"

View images



Lightsources.org serves as a tool for establishing effective communication about and among the world's light sources. Updated daily, this site serves as a clearing house for light source related news, educational material, and user-related information. It provides links to current light source news, high-resolution graphics from light sources around the world, links to education and outreach programs, information on meetings, and facility related information for lightsource users.

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# The Plan for Users and Facilities

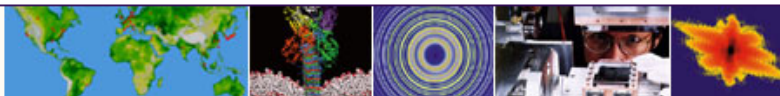
## ✱ INITIALLY, LINKS TO LIGHT SOURCE WEB SITES

## ✱ LONG TERM

- ✱ Mechanism for easy access to information about all aspects of being a light source user
- ✱ Allow prospective user to determine which light sources are of interest and direct the user to those facilities
- ✱ Possibly central posting of proposal deadlines, schedules

## ✱ FACILITY NEWS

- ✱ Central calendar of meetings and events
- ✱ Technical developments at the light sources
- ✱ Organizational changes at the light sources
- ✱ Job opportunities





# Information & Links to Facilities World-Wide

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## Facility Information

### North America

- [Advanced Light Source \(ALS\)](#), USA
- [Advanced Photon Source \(APS\)](#), USA
- [Center for Advanced Microstructures & Devices \(CAMD\)](#), USA
- [Cornell High Energy Synchrotron Source \(CHESS\)](#), USA
- [Canadian Light Source \(CLS\)](#), Canada
- [Duke Free Electron Laser Laboratory \(DFELL\)](#), USA
- [Jefferson Lab \(JLab\)](#), USA
- [National Synchrotron Light Source \(NSLS\)](#), USA
- [Synchrotron Radiation Center \(SRC\)](#), USA
- [Stanford Synchrotron Radiation Laboratory \(SSRL\)](#), USA
- [Synchrotron Ultraviolet Radiation Facility \(SURF-II / SURF-III\)](#)

### South America

- [Laboratorio Nacional de Luz Sincrotron \(LNLS\)](#), Brazil

### Europe

- [ALBA Synchrotron Light Facility](#), Spain
- [ANKA - Institute for Synchrotron Radiation \(ISS\)](#), Germany
- [Berliner Elektronenspeicherring-Gesellschaft für Synchrotron Strahlung \(BESS\)](#), Germany
- [DAΦNE Light](#), Italy
- [Dortmund Electron Test Accelerator \(DELTA\)](#), Germany

## Stanford Synchrotron Radiation Laboratory (SSRL)

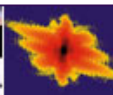
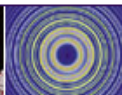
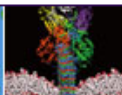
### [Stanford Linear Accelerator Center \(SLAC\)](#)

- <http://www-ssrl.slac.stanford.edu>
- **Address**  
Stanford Linear Accelerator Center  
2575 Sand Hill Road  
Menlo Park, CA 94025  
USA
- **Media Contact**  
Neil Calder  
Director of the Office for Communications  
Stanford Linear Accelerator Center  
2575 Sand Hill Road, MS 58  
Menlo Park, CA 94025  
USA  
Tel: (650) 926-8707  
Fax: (650) 926-8705  
Email: [neil.calder@slac.stanford.edu](mailto:neil.calder@slac.stanford.edu)
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- [Experimental Facilities](#) and [SPEAR Experimental Facilities](#)
- **User Services Office**  
User Research and scheduling at SSRL:  
Cathy Knotts  
User Research Administration Manager  
Tel: (650) 926-3191  
Fax: (650) 926-3600  
Email: [knotts@ssrl.slac.stanford.edu](mailto:knotts@ssrl.slac.stanford.edu)



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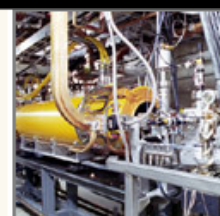


Image # APS008    [Advanced Photon Source \(APS\)](#)    Dec 4, 2004

Advanced Photon Source (APS) linear accelerator



Image # APS010    [Advanced Photon Source \(APS\)](#)

Advanced Photon Source (APS) linac

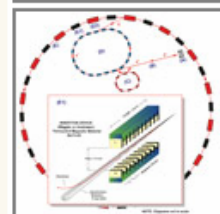


Image # APS014    [Advanced Photon Source \(APS\)](#)

Schematic of beam acceleration and storage

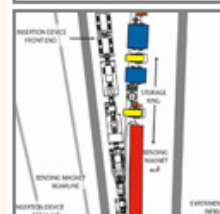


Image # APS020    [Advanced Photon Source \(APS\)](#)

Diagram of a typical Advanced Photon Source beamline (top view)

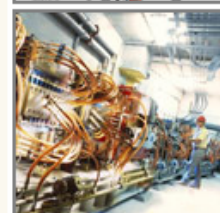


Image # SSR002    [Stanford Synchrotron Radiation Laboratory \(SSRL\)](#)    Jan 7, 2005

Stanford Synchrotron Radiation Laboratory (SSRL) view inside SSRL accelerator tunnel

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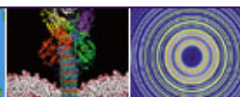
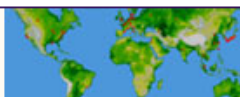
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2005  
February

- February 4, 2005 - *Technician*  
[Biochemist bounces electrons to fight cancer](#)
- February 4, 2005 - *Cordis News*  
[Polish researcher heads ground-breaking](#)
- February 4, 2005 - *Barcelona Field Studies*  
[Barcelona's Synchrotron](#)
- February 4, 2005 - *Europa*  
[European teams join forces to create new](#)
- February 3, 2005 - *Science Daily*  
[Structure Of A Conserved RNA Element In](#)
- February 3, 2005 - *Chemie.De*  
[Spectroscopy for the Real World](#)
- February 2, 2005 - *SRS News*  
[Watching Liquid Alumina Solidify from 300](#)
- February 1, 2005 - *Spacedaily*  
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## Structure Of A Conserved RNA Element In The SARS Virus Genome Determined

In February 2003, the first (and so far only) epidemic of severe acute respiratory syndrome (SARS) started in Guangdong Province, China. A respiratory illness that begins with a high temperature and can develop into life-threatening pneumonia, SARS is spread by close person-to-person contact. Before the end of the month, a Guangdong doctor had inadvertently taken the infection to Hong Kong. A woman staying in the same Hong Kong hotel as the doctor then carried the disease to Toronto. In March, the World Health Organization issued a global alert and warned against unnecessary travel to affected areas. Because of these and other containment efforts, 8,098 people became ill with SARS, rather than the predicted millions; 774 people died. The last case of the epidemic was reported in Taiwan in June 2003, and since then

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[ELSA](#)  
[Synchrotron Radiation Group](#)
- [ESRF](#)
- [HASYLAB - Deutsches Elektronen-Synchrotron](#)  
[HASYLAB Annual Report](#)  
[PETRA III technical Design Report](#)  
[XFEL Technical Design Report](#)  
[Technical Design Report, Supplement](#)
- [Institute for Storage Ring Facilities \(ISAF\)](#)
- [Jefferson Lab](#)
- [Laboratório Nacional de Luz Síncrotron](#)
- [MAX-Lab](#)
- [National Synchrotron Light Source \(NSLS\)](#)
- [National Synchrotron Research Center \(NSRC\)- Siam Photon Laboratory \(SPL\)](#)
- [National Synchrotron Radiation Research Center \(NSRRC\)](#)

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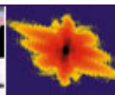
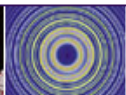
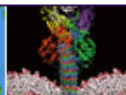
Online Catalogs

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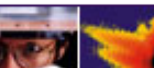
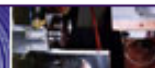
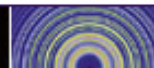
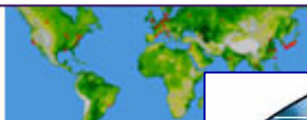
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News, information, and education about the world's light sources

## Educational Material

This page is devoted to providing the general understanding of lightsources, how they work

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Basic information to get started on light sources
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## What is a synchrotron ?

### A supermicroscope

The thirst for knowledge drives us to explore the world around us. What is our planet made of? What are the processes that sustain life? How can we explain the properties of matter and develop new materials? Will it one day be possible to conquer viruses, predict natural catastrophes or eliminate pollution?



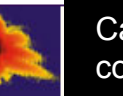
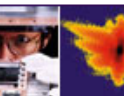
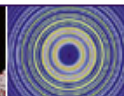
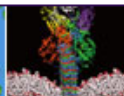
Most of these questions cannot be answered without a profound knowledge of the intimate details of the structure of matter. To help in this quest, scientists have developed ever more powerful instruments capable of resolving the structure of matter down to the level of atoms and molecules.

Synchrotron radiation sources, which can be compared to "supermicroscopes", reveal invaluable information in numerous fields of research. There are about 50 synchrotrons in the world being used by an ever growing number of scientists.

✱ Possibility of developing specific educational materials (\$£¥€)

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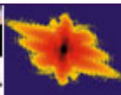
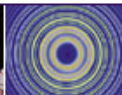
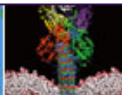


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# The Audiences

## ✧ YOU!

- ✧ Users facility administrators, user outreach and communicators
- ✧ Users and user institutions
- ✧ Policymakers, funding agencies, their staff
- ✧ Science press and other media
- ✧ Students and educators
- ✧ Broader scientific community
- ✧ Science-interested public





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Flash

## ☀ FACILITY PRESS RELEASES

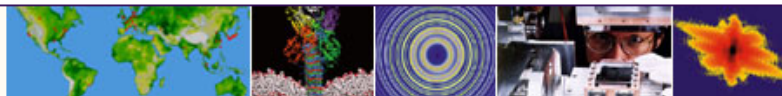
📁 Submitted by members of collaboration

## ☀ USER INSTITUTION PRESS RELEASES

💻 Mechanism for filtering from website developer

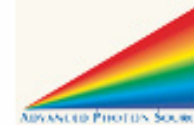
## ☀ LIGHT SOURCE NEWS FROM ELSEWHERE

📁 From webmaster and members of collaboration

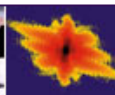
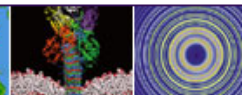


# Who is sponsoring this effort?

- [Advanced Light Source \(ALS\)](#), USA
- [Advanced Photon Source \(APS\)](#), USA
- [Canadian Light Source \(CLS\)](#), Canada
- [Elettra](#), Italy
- [ESRF](#), France
- [HASYLAB](#), Germany
- [Jefferson Lab \(JLab\)](#), USA
- [National Synchrotron Light Source \(NSLS\)](#), USA
- [National Synchrotron Radiation Research Center \(NSRRC\)](#), Taiwan
- [Pohang Accelerator Laboratory \(PAL\)](#), S. Korea
- [Photon Factory \(PF\)](#), Japan
- [Swiss Light Source \(SLS\)](#), Switzerland
- [Super Photon Ring-8GeV \(SPring-8\)](#), Japan
- [Synchrotron Radiation Center \(SRC\)](#), USA
- [Stanford Synchrotron Radiation Laboratory \(SSRL\)](#), USA
- [Synchrotron Ultraviolet Radiation Facility \(SURF-II / SURF-III\)](#), USA



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# The Organization Plan

## Light Source Communicators Group (LSCG)

Any accelerator-based light source in the world can be represented.

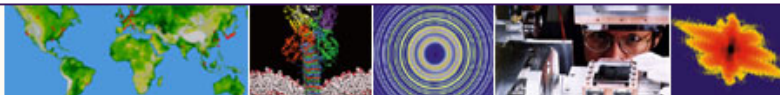
## lightsources.org Management Group (LSMG)

Members of the Light Source Communicators Group who contribute financially to lightsources.org become voting members.

## lightsources.org Editorial Board (LSEB)

Seven members of the lightsources.org Management Group are drawn on a rotating basis to oversee operations.

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# Who is doing the work?

## Designer / Developer: XENO media

- ☀ Create core website
- ☀ Present overall design concept
- ☀ Implement technical solutions
- ☀ Arrange for webserver hosting
- ☀ Train webmaster



Xeno Media, Inc.  
19 E. First St., Suite A  
Hinsdale, IL 60521  
630/794-9560  
www.xenomedia.com

Proposal for consulting, design, XenoCMS implementation and customization for Lightsources.org

Presented to:  
Lightsources.org Management Group

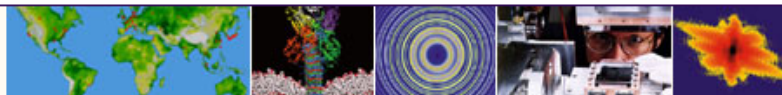
## Webmaster: Amaya Muñoz

- ☀ She has worked in Europe, Japan, United States
- ☀ International background is important!
- ☀ Role
  - ☀ Coordinate with editorial board and website development company
  - ☀ Gather content
  - ☀ Day-to-day operation
  - ☀ Communicate with light sources



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lightsources.org



Cathy Knotts for light source communicators group 3/05

# Spread the Word About This Centralized and Shared Resource

- \* Check out [www.lightsources.org](http://www.lightsources.org)
- \* Talk to your light source communicators group member or contact the webmaster by e-mail: [info@lightsources.org](mailto:info@lightsources.org)
  - \* ALRobinson@lbl.gov; EJMoxon@lbl.gov; fenner@aps.anl.gov; nova@aps.anl.gov; Sandra.Ribeiro@lightsource.ca; kathryn.warden@usask.ca; bertolo@elettra.trieste.it; freund@esrf.fr; cornuejols@esrf.fr; petra.folkerts@desy.de; wiebke.laasch@desy.de; ware@jlab.org; chsu@nsrrc.org.tw; dianalin@nsrrc.org.tw; lmiller@bnl.gov; giordano@bnl.gov; noriko.usami@kek.jp; youhei.morita@kek.jp; isko@postech.ac.kr; heinz-josef.weyer@psi.ch; cmoore@src.wisc.edu; Calder, Neil; Knotts, Cathy; uwe.arp@nist.gov; webmaster@lightsources.org; munday@xenomedia.com
  - \* If your facility is not represented, please contact your management